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Testimony

Subcommittee on Energy

of the

U.S. House of Representatives Committee on Energy and Commerce

Hearing on legislation to

Strengthen Energy Infrastructure, Efficiency, and Financing

Rayburn House Office Building
John D. Dingell Room (2123)

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10:30 a.m.

Submitted by:

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Chairman Rush, Ranking Member Upton and members of the Subcommittee on Energy, I want to thank you for the opportunity to testify on the proposed legislative initiatives to *“Strengthen Energy Infrastructure, Efficiency, and Financing.”* This is a timely hearing as we are now facing an unprecedented crisis across our entire energy complex which requires immediate attention.

I am President of the Energy Policy Research Foundation, Inc. (EPRINC), a non-profit public policy research organization. EPRINC was founded in 1944 and studies energy economics and policy issues with special emphasis on oil, natural gas, and petroleum product markets. I have worked on a broad range of energy security issues for my entire career, both in and out of government, beginning with the 1973-74 Arab oil embargo. For the last two years, EPRINC has undertaken a systematic assessment of the technical risks and cost challenges of the energy transition with special attention to implications for our energy security.

Summary

We are in the middle of an energy crisis that may last for years to come. A mix of forces have led to the current crisis among of which the more important are rapidly rising energy demand as the world economies rebound from the pandemic lockdowns, sustained under-investment in fossil fuels from climate concerns, and a fundamental misunderstanding of the impact of government policies on energy markets. Clearly, the Ukraine war has exacerbated the crisis, but these disruptions to our energy systems were well underway before the war began.

High energy prices are especially harmful to low-income communities (Figures 1 & 2). The energy crisis is also feeding inflation, contributing to rising worldwide food shortages (Figure 3 & 4) and constraining economic growth worldwide. Of special concern are both private sector initiatives and government policies that have deterred if not prohibited new investment in domestic oil and gas infrastructure and production. This approach has been viewed by some as an appropriate strategy to accelerate the energy transition. However, it has now become apparent that we cannot properly address the current crisis without significant new supplies of fossil fuels, especially oil and natural gas, and new infrastructure.

Many proponents of proceeding with a rapid energy transition have argued that by accelerating production of electric vehicles, accompanied by a rapid buildout of wind and solar

resources, we can free ourselves from price volatility and the supply chain disruptions now prevalent in world oil and natural gas markets. This strategy, however, at least in the near-term, has proven to be unrealistic. Any of these envisioned transitions will require mining, processing and procuring of large volumes of critical minerals and materials that may present new environmental and energy security liabilities. In this regard, H.R. 1599 (*“Securing America’s Critical Minerals Supply Act”*) recognizes that while the energy transition offers the potential to insulate the U.S. from price volatility and supply chain disruptions associated with oil and gas production, it may instead introduce a new set of supply and cost risks. The proposed legislation appropriately requires that these critical minerals and materials be fully incorporated into U.S. Department of Energy’s ongoing responsibilities to evaluate supply risks and address energy security requirements.

As shown in Figure 5, the U.S. will require what can only be described as a massive increase in critical minerals and materials to meet the requirements of the energy transition. Note that as shown in Figure 6, the primary sources of these minerals and materials are outside the OECD; and as shown in Figure 7, there is no guarantee that reliance on such minerals will insulate the U.S. from price volatility.

The energy transition is going to take time, likely many decades, and may, in the end, prove more elusive than current expectations. More importantly, policy measures to accelerate the transition must not undermine the ability of energy markets to supply consumers with reliable and reasonably priced energy, even in times of supply disruptions.

I ask the Subcommittee to consider the following as they proceed to address the current energy crisis and develop legislative initiatives to support the energy transition.

Strengthen the North American oil and gas production platform

We have under-estimated the cost and the timeline for the energy transition. In doing so, we have underinvested in traditional forms of energy and undermined the capacity of energy markets to increase supply and reduce prices. Telling oil and gas producers to increase production at the same time the government has promoted policies to end investment in fossil energy infrastructure is nonsensical and has accelerated the energy crisis. Instead, we should view the North American oil and gas production platform as an essential strategic asset for the United States and an arsenal of energy security for ourselves and our allies. Note that in a recent

visit to Japan, President Biden refused to join Prime Minister Kishida in a joint statement emphasizing the importance of investment in U.S. oil and gas resources.¹ This sends the wrong message to our allies and adversaries.

Protecting and expanding the North American oil and gas production platform will require sound policies that send positive signals to investor communities and the marketplace. The Congress should undertake legislation to support more rapid approval of critical infrastructure, including new natural gas pipelines with sufficient capacity and flexibility to address pipeline and facility outages. We will require continued upgrades and renewal of our pipeline network to move crude oil and petroleum products throughout North America. Cancellation of the Keystone Pipeline from Canada, ongoing political and regulatory attacks on the operation of Line 5 in Michigan, and the halt in leasing of oil and gas resources on public lands are sending the wrong signal to petroleum markets and will inevitably further raise prices to consumers.

The U.S. and the rest of the world will continue to need oil and gas throughout the transition. Any policy decision based on the simple premise that the U.S. can transition simply by cutting production of legacy fuels will backfire horribly and erode public support for the energy transition.

Recent speculation that some members of Congress and the Biden Administration are considering reinstituting a ban on U.S. crude oil exports is especially worrisome as it would likely raise gasoline prices and further disrupt supply chains. It is important to recognize that the U.S. is a large continental land mass. Minimizing transportation costs for moving crude oil to market is important. Oil prices are set in the world market. This allows a refiner in Hawaii to purchase crude from Indonesia rather than Houston and save on transportation costs. A Gulf coast refiner whose processing technology is tuned to heavy crude might find it cheaper to use Mexican or Canadian oil than the specifications of the crude oil produced in North Dakota. In

¹ President Biden refused to join Prime Minister Kishida in welcoming more investment in U.S. oil and gas even though the Japanese side requested it be made jointly, ..”*The two leaders welcomed recent efforts by the international community to secure stable energy and food supplies, which are threatened by the impact of Russia’s aggression against Ukraine. Prime Minister Kishida emphasized the significant role U.S. Liquid Natural Gas plays in alleviating global supply constraints and welcomed investment by U.S. industry to increase oil and natural gas production.*” See <https://www.whitehouse.gov/briefing-room/statements-releases/2022/05/23/japan-u-s-joint-leaders-statement-strengthening-the-free-and-open-international-order/>

short, crude oil and petroleum product exports allow the entire North American production platform to minimize transportation and processing costs.

Open access to markets and crude and product transportation efficiencies permit U.S. refineries to operate at high levels of capacity utilization and provides opportunities for upstream producers to maximize crude oil output. The free movement of capital, crude oil and petroleum products remain critical to sustaining the productive capacity of the U.S. petroleum industry and the entire North American oil and natural gas production platform. These efficiencies have led to rapid expansion of U.S. oil production and remain one of the central reasons that large volumes of U.S. crude imports also result in large volumes of higher value-added exports of petroleum products. One of the reasons the U.S. has achieved energy independence is that the production platform is efficient. Reinstating the export ban would result in further reductions in U.S. production, higher stress on supply chains, and rising price risk to gasoline supplies.

We only need to look at recent history to see the benefits on a robust domestic oil and gas sector. As shown in Figure 8, between 2010 and 2020 the U.S. supplied over 80% of incremental world demand. It was these U.S. production increases that played the central role in moderating gasoline prices.

What can we do now?

Although most policy and legislative measures aimed at reducing gasoline prices will take time, there are some measures we can undertake now. Regulatory programs managing the production and consumption of transportation fuels are adding to the cost of gasoline. Right now, approximately 30 cents per gallon in the price of gasoline is from compliance costs in meeting biofuel blending requirements under the Renewable Fuel Standard (Figures 9 and 10).² The problem is not the use of biofuels (in this case, ethanol), it is a government mandate that now requires blending biofuels above 10% by volume. The volumetric mandate above 10% leads to escalating compliance costs. An additional consequence of this program is that some refineries

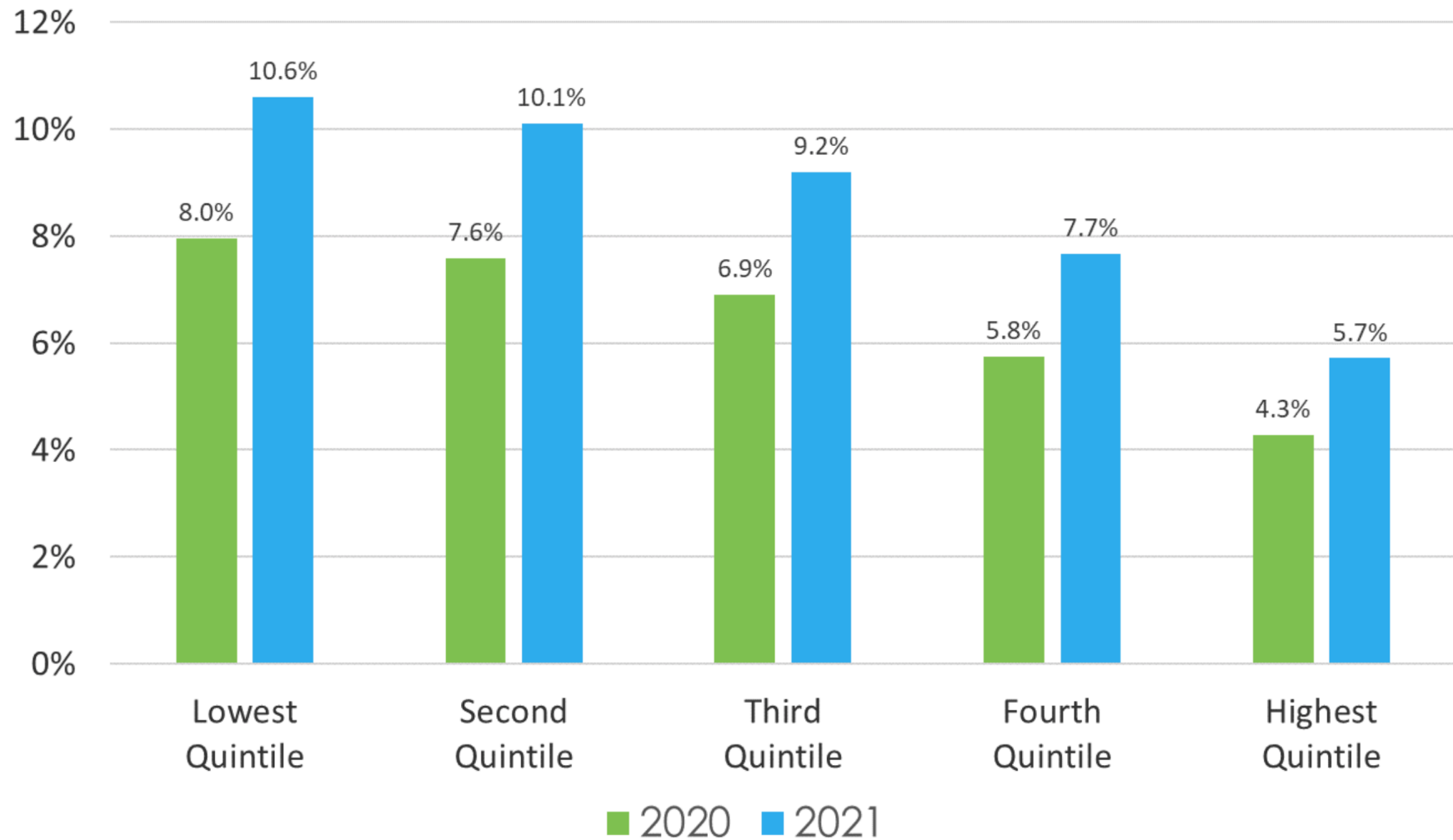
² For a full discussion of fuel specifications, cost considerations, and regulatory requirements for manufacturing gasoline, see Pugliaresi, L., & Pyziur, M. (June 2015), *Gasoline Blending: An EPRINC Primer*; <http://eprinc.org/wp-content/uploads/2015/06/Updated-Gasoline-Primer-2015.pdf>. Also, see Pugliaresi, L., & Pyziur, M. (November 2016), *The Biofuel Mandate: Technical Constraints and Cost Risks*; <https://www.dropbox.com/s/6zldnd64svpl44h/Biofuel%20Mandate%20Nov%202015.pdf?dl=0>, and Pugliaresi, L., & Pyziur, M. (February 2019), *OCTANE: Pathway to a Compromise*; <https://eprinc.org/wp-content/uploads/2019/02/Octane-Pathway-to-a-Compromise-Feb-2019-FINAL.pdf>.

have been repurposed to produce biodiesel as a direct result of the RFS mandate and this has reduced U.S. refinery capacity to produce transportation fuels. Holding the RFS mandate at 10% would reduce the volumetric mandate modestly, increase refinery capacity and reduce gasoline prices, and likely have little effect on corn and soybean prices which have risen substantially as food supplies have been curtailed from the war in Ukraine.

There are other measures worth considering that offer potential to bring efficiencies in the production and distribution of transportation fuels. The Administration should consider an emergency measure and the Congress should consider a legislative initiative to move towards national standards for fuel specifications, especially Reid Vapor Pressure (RVP) standards. Providing more ocean transportation resources to move Gulf Coast oil production and petroleum products to U.S. East Coast destinations would also take pressure off of gasoline prices. Under the Jones Act, only U.S. registered, and crewed tankers can move products from one U.S. port to another U.S. port, but these transportation options are limited and expensive. I am well aware these measures face enormous political headwinds, but addressing rising gasoline prices remains an urgent issue for most Americans.

Figure 1

Expenditures on Energy as Percent of Total Expenditures, 2020-2021



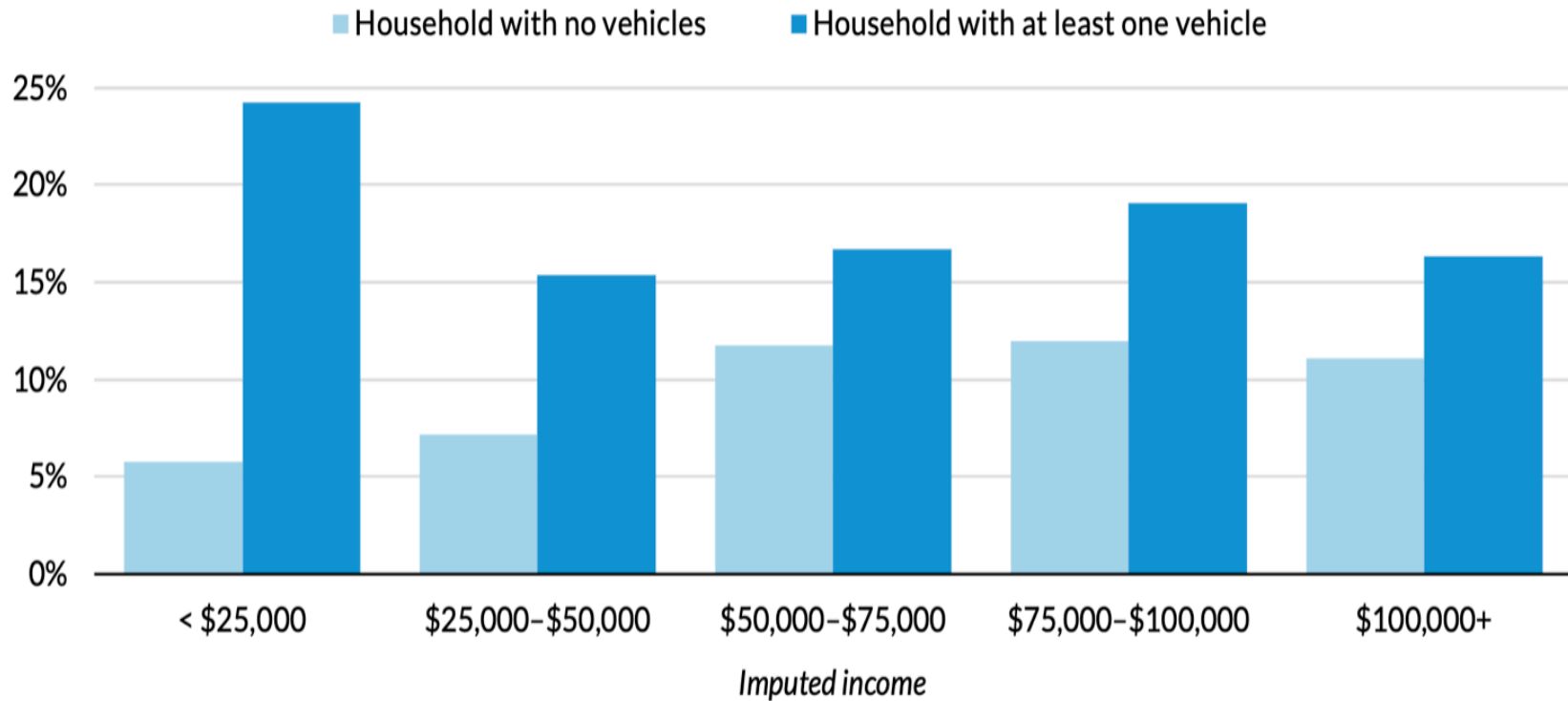
Source: Joint Economic Committee, U.S. Congress



Expenditures on Energy as Percent of Total Expenditures, 2020-2021

Figure 2

Rising Cost of Transportation Fuels Harm Low-Income Households *(Share of Household Income Spent on Transportation)*



Source: Urban Institute, Data from Second Quarter 2020 from BLS data sets. See <https://www.urban.org/urban-wire/what-rising-gas-and-rent-prices-mean-families-low-incomes>

Source: Urban Institute

Figure 3

World Food Production Depends on Fossil-based Fertilizers

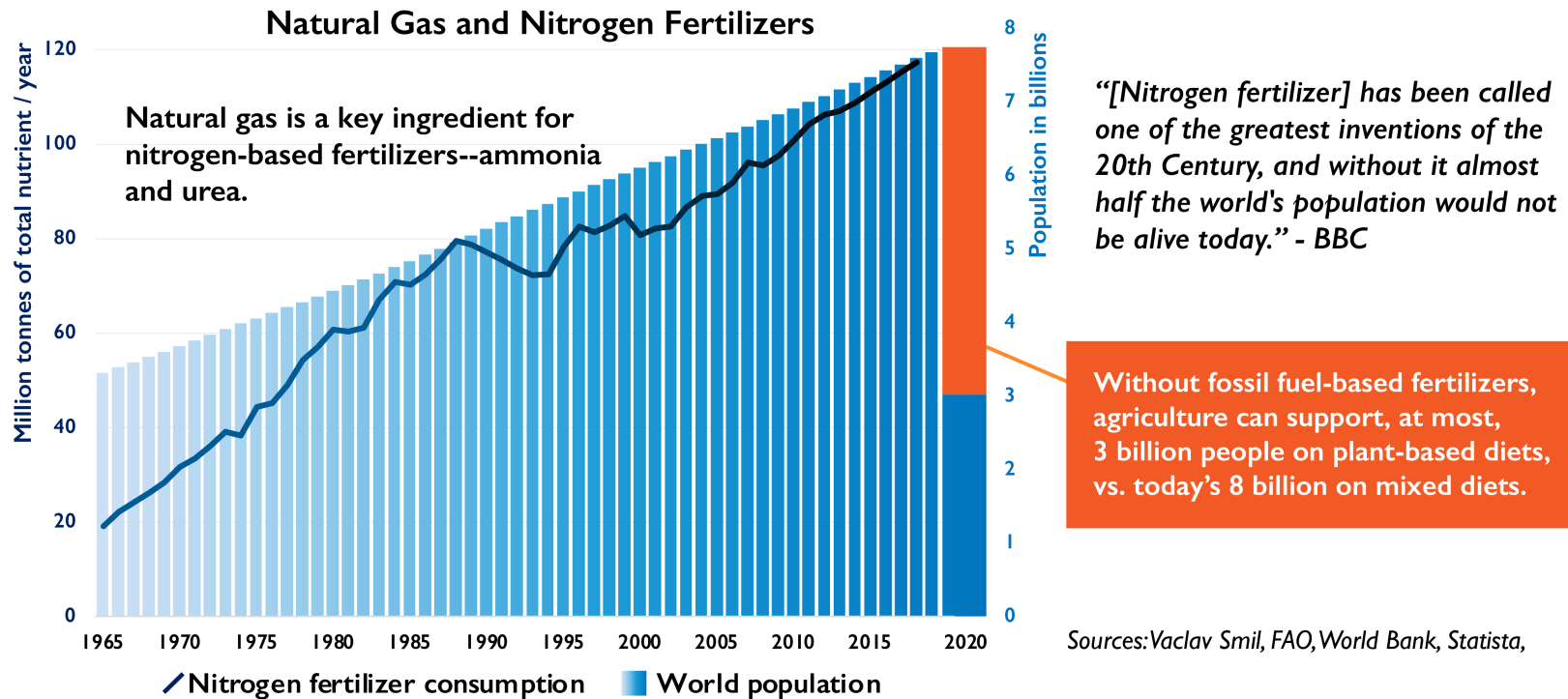


Figure 4

Rising Natural Gas Prices are Leading to Rising Costs for Fertilizer (and Food)

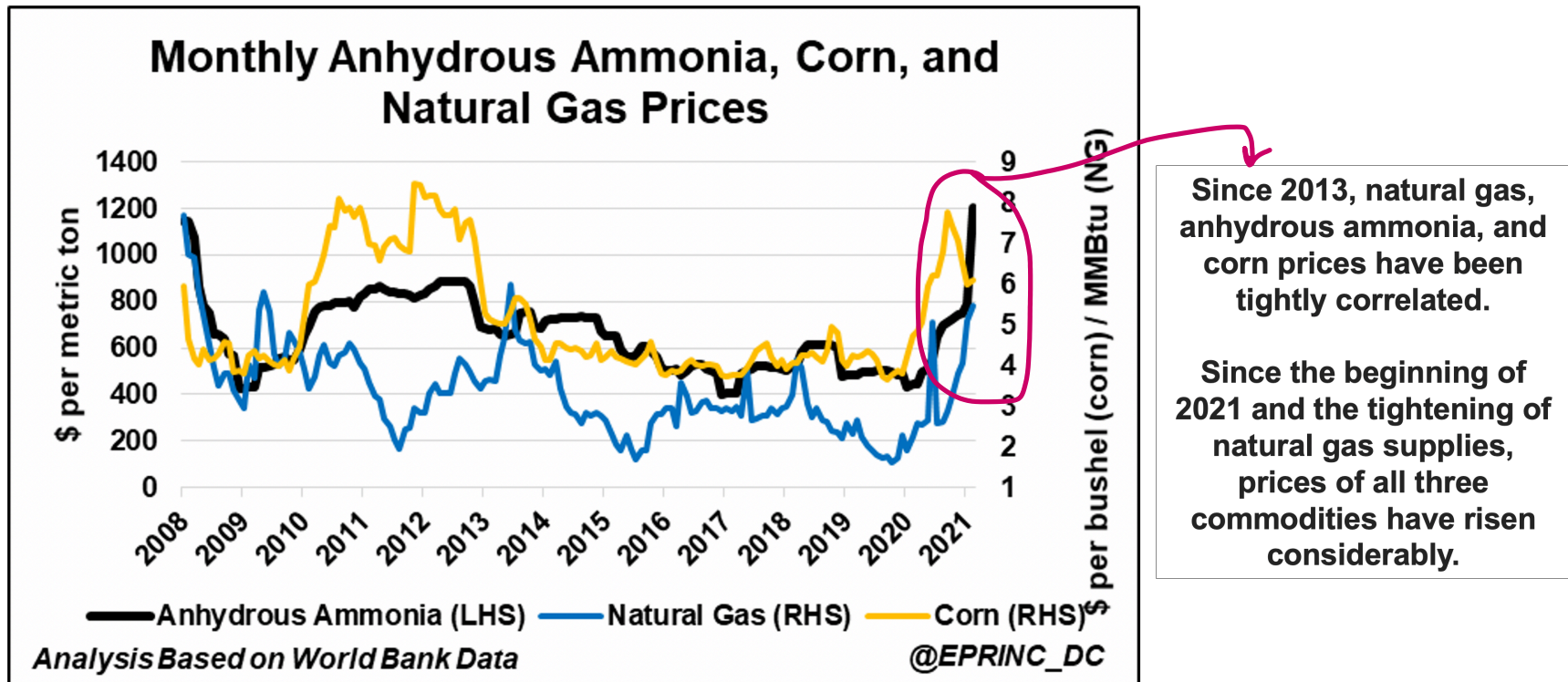
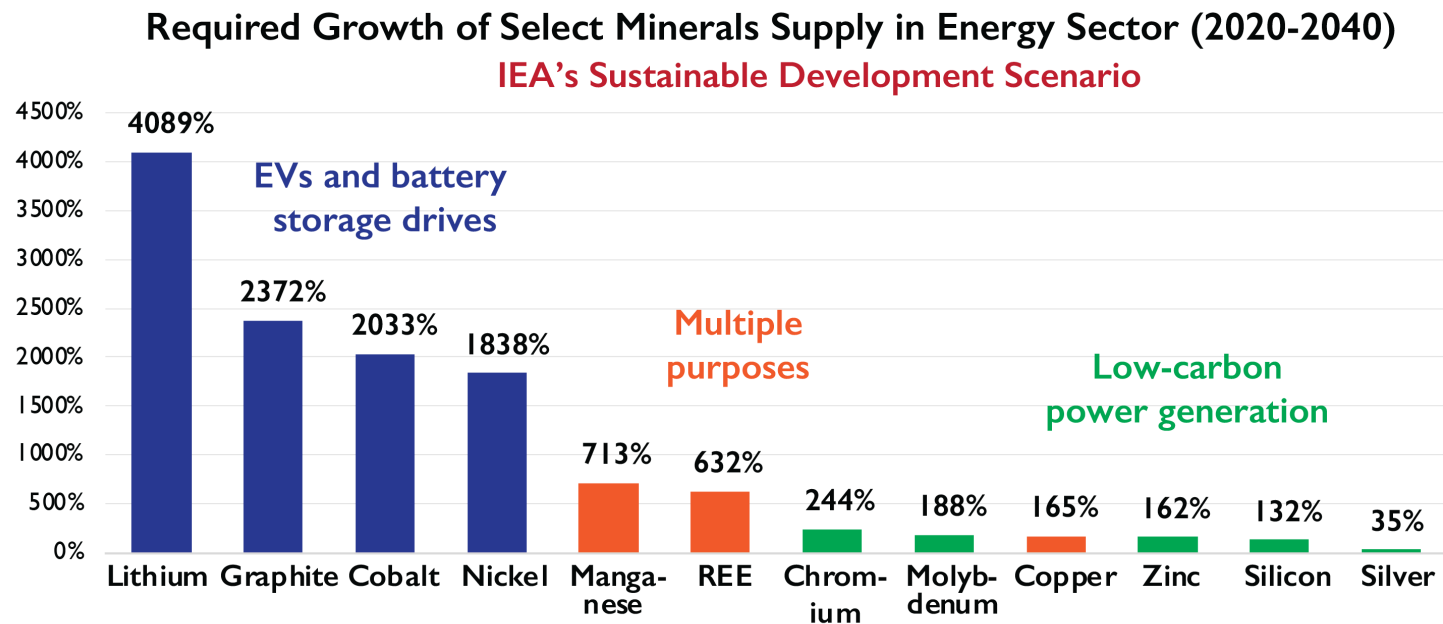


Figure 5

A Massive, Unrealistic Increase in Critical Minerals Required

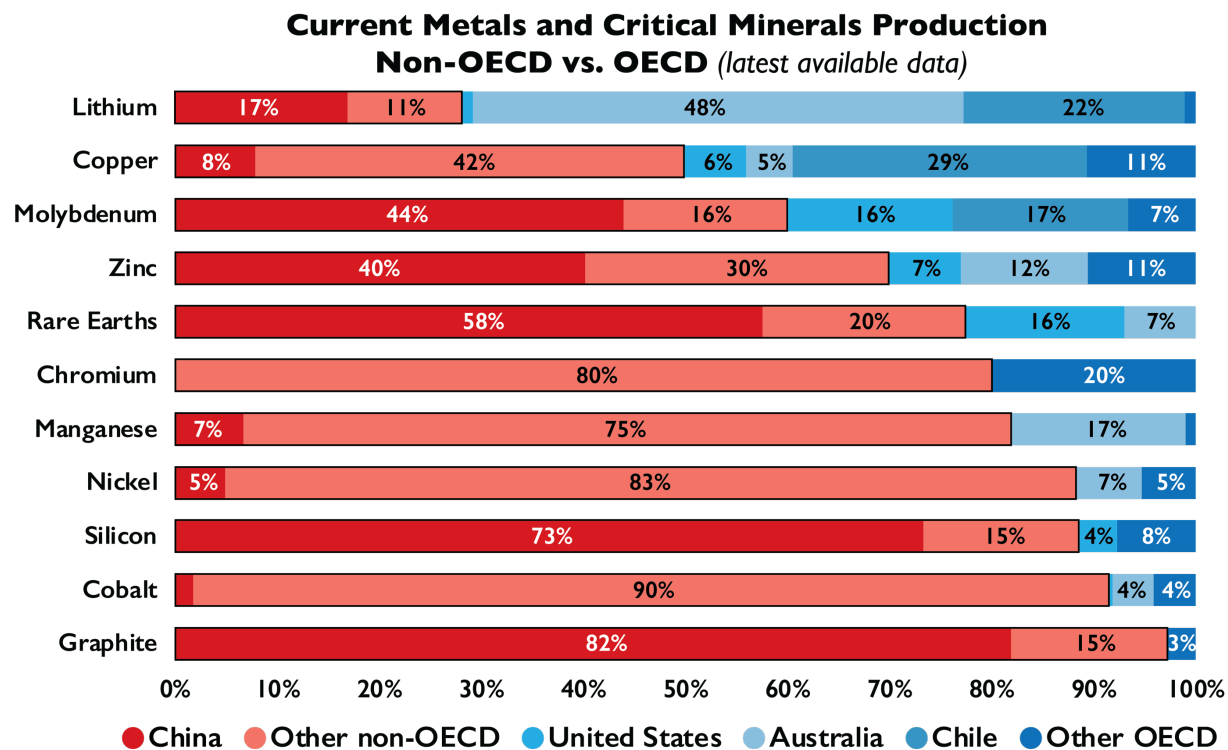


REE=Rare earth elements | Multiple purposes include EVs, battery storage, power gen, hydrogen, electric networks.
Data from IEA's Critical Minerals Report



Figure 6

OECD: Dependence on Critical Mineral Supply from Non-OECD

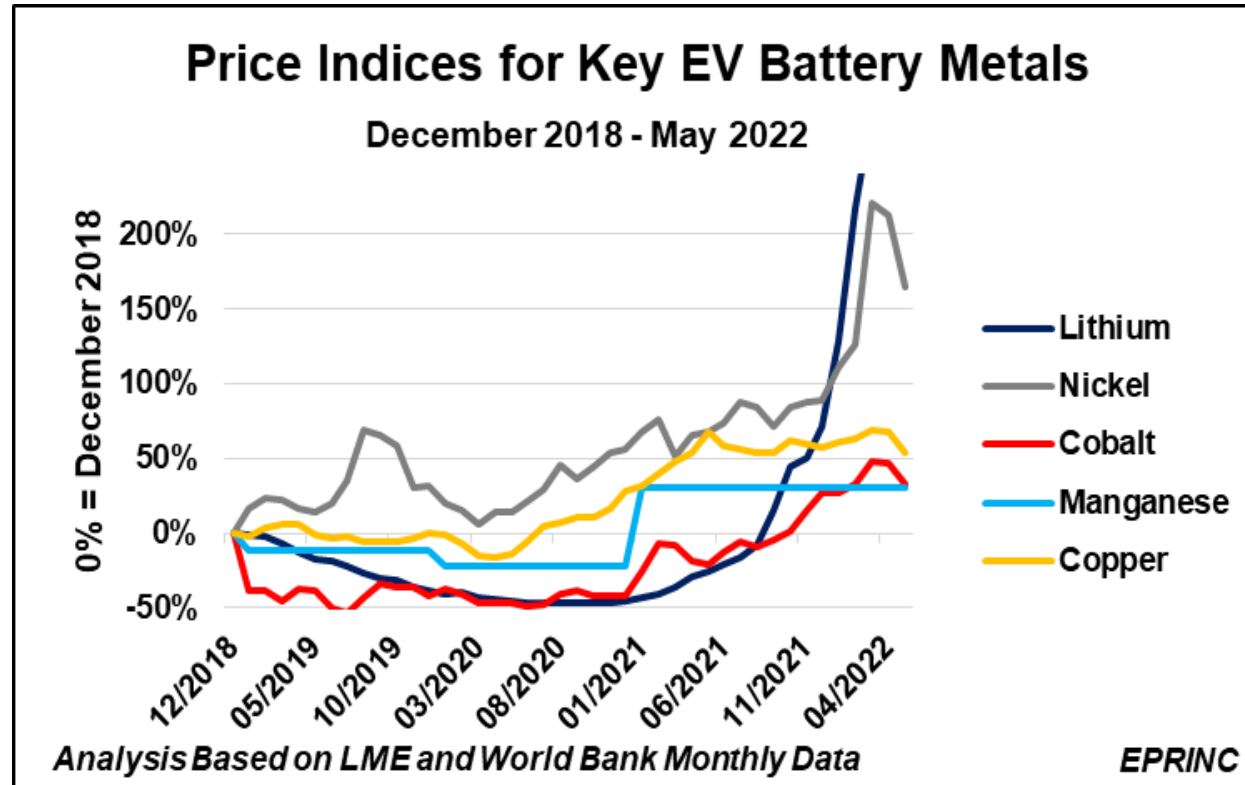


Note: Copper data is from 2018, Cobalt from 2019, Lithium from 2020, all other data from 2021
EPRINC figure based on data from the Global Economy, US Geological Survey, Statistica, and other sources



Figure 7

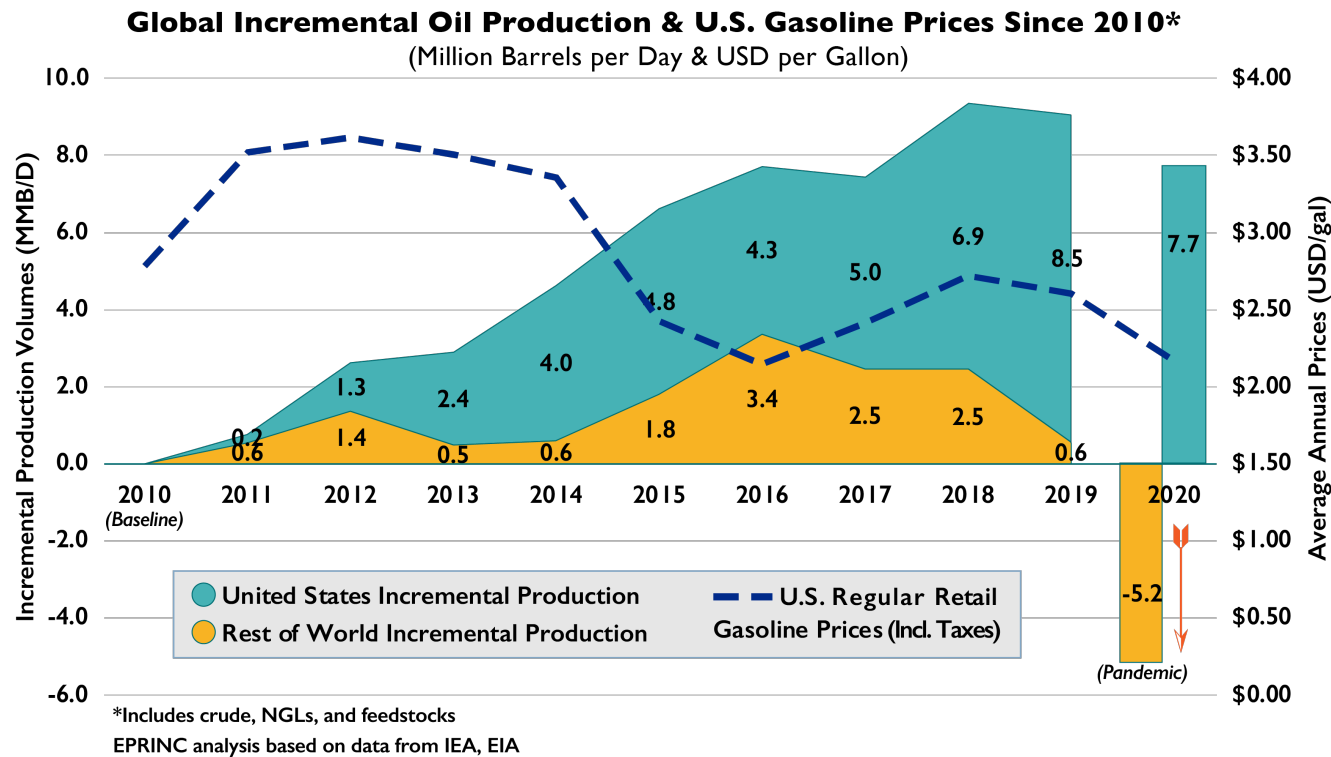
Critical Minerals Essential for the Energy Transition are Not Immune from Price Volatility



	Percentage Change
Lithium	393%
Nickel	165%
Cobalt	33%
Manganese	30%
Copper	54%

Figure 8

Incremental U.S. Oil Production Expansion Helped Moderate Gasoline Prices



U.S. supplied **84%** of incremental global liquids demand between 2010 and 2020.



Figure 9

The Renewal Fuel Mandates are Still Adding 30 Cents per Gallon to the Costs of Gasoline

**EPRINC 2016 ANALYSIS OUTLINED COST RISKS FROM VOLUMETRIC TARGETS
ABOVE THE BLEND WALL**

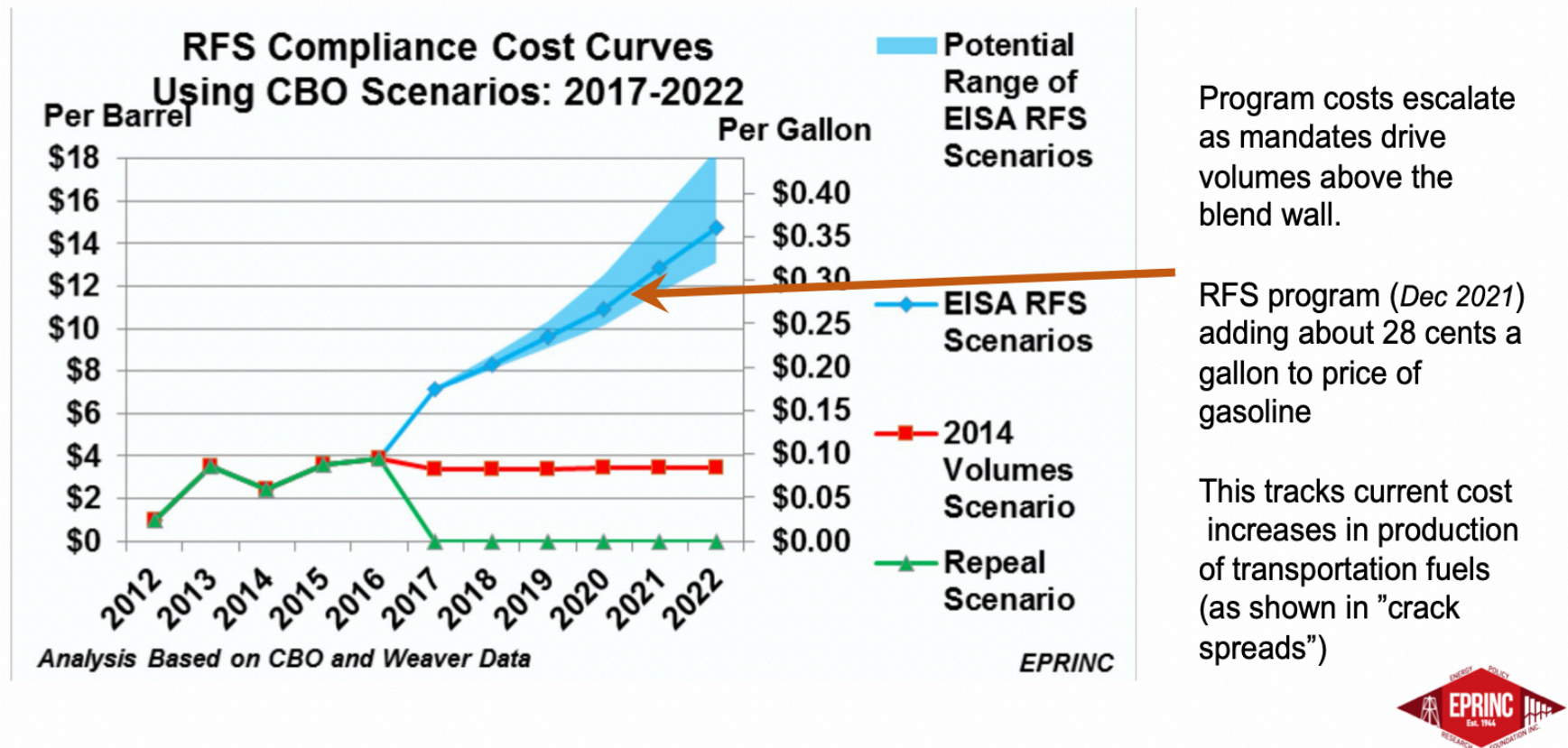


Figure 10

Consumers Face Large Array of Regulatory Costs for Gasoline

